

# A NEW SPECIES OF *GEHYRA* (REPTILIA: GEKKONIDAE) FROM CENTRAL AUSTRALIA

by MAX KING\*

## Summary

KING, M. (1982) A new species of *Gehyra* (Reptilia: Gekkonidae) from Central Australia, *Trans. R. Soc. S. Aust.* **106**(4), 155-158, 30 November, 1982.

A species of *Gehyra* found on isolated rock outcrops in the central Northern Territory is here described as *Gehyra minuta* sp. nov. Details are provided on the species chromosome morphology.

KEY WORDS: Reptilia, Gekkonidae, *Gehyra* n. sp., chromosome morphology.

## Introduction

The gekkonid genus *Gehyra* is one of the more taxonomically confusing entities of the Australian herpetofauna. Several new species have been described recently and others redefined or synonymised. Thus, the current list includes *Gehyra australis* Gray 1845, *G. variegata* (Duméril & Bibron 1836), *G. baliola* (Duméril 1851), *G. punctata* Fry 1914, *G. pilbara* Mitchell 1965, *G. nana* Storr 1978, *G. xenopus* Storr 1978, *G. catenata* Low 1978, *G. pamela* King 1982, *G. montium* Storr 1982 and *G. purpurascens* Storr 1982. Storr (1982) also synonymised *G. fenestra* Mitchell 1965, with *G. punctata*, redefining the latter species and restricting its distribution to the central west of Western Australia.

Karyotypic studies on *Gehyra* and a number of other species (King 1979, 1982, in press) have shown that some species e.g. *G. nana*, *G. pamela*, *G. purpurascens*, *G. catenata* and *G. pilbara* are chromosomally monomorphic in that each consists of a single chromosome race. Other forms, such as *G. variegata*, *G. punctata* (sensu Mitchell 1965) and *G. australis*, are each made up of a number of chromosome races. Closer morphological examination by this author reveals that these species are in fact species complexes and these are now under taxonomic revision.

*Gehyra montium* Storr (1982) is distributed in central and Western Australia. However, on the basis of distribution and morphology this morphologically variable species appears likely to include specimens having  $2n = 38$ ,  $2n = 44$  and certain animals from the Warburton Ranges, W.A. with  $2n = 42$  chromosomes (King 1979, unpubl.). It is

probable that *G. montium* also is a composite species.

The present paper describes a tiny *Gehyra* species found in a small area on the south-western periphery of the Barkly tablelands in central Northern Territory.

## Materials and Methods

Fifteen adult specimens were collected; of these 11 were analysed chromosomally using techniques described by King & Rofe (1976) and King (1979). Additional immature specimens were also karyotyped, but these were not examined morphologically. Measurements were made using micrometer adjusted callipers and a steel rule. Specimens are lodged in the Australian Museum (AM) and the Northern Territory Museum (NTM).

## *Gehyra minuta* sp. nov.

FIGS 1, 2

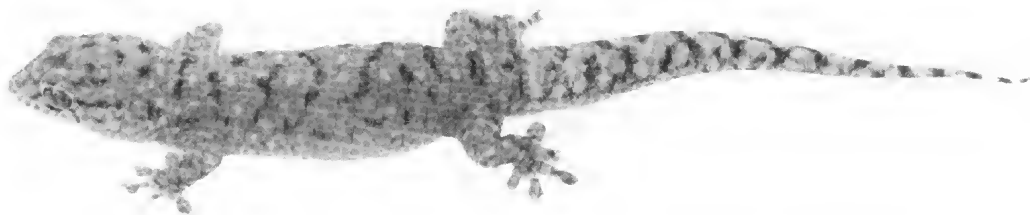
*Holotype*: NTM R9878: An adult male collected 17.vi.1973 by M. King, 78.5 km S. of Renner Springs, Northern Territory.

*Paratypes*: NTM R9879-82. Three adult males and one female collected with the holotype. NTM R9883-86: Two adult males and two adult females collected 17.vi.1973 by M. King 17.9 km N of Renner Springs. AM R16304-07: Three adult females and one adult male collected 17.v.1980 by D. Metcalfe and R. Brown 5 km E of Barry Caves. AM16313-14: Same locality and collected on 18.v.1980.

*Diagnosis*: A small dorso-ventrally compressed rock dwelling gecko with a distinctive short snout and large eye (Fig. 1). This species is distinguished from other *Gehyra* by its small size (sexually mature adults were no larger than 45.5 mm SVL). *G. minuta* differs from *G. nana* and *G. montium* by the rostral shape, which is oblong and flat or slightly sloped in

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a



b



Fig. 1. Two specimens of *G. minuta* collected near Barry Caves, N.T., showing the variation in back pattern. Bar scale = 10 mm.

these species, but deep and sharply gabled in *G. minuta*. It is also distinguished from *G. montium* by the postmental scales making contact with the second infralabials in many specimens. The background colouration in the back pattern of *G. minuta* is orange-brown, whereas, it is grey-brown in *G. variegata* and pinkish-grey in *G. nana*.

**Description of Holotype:** Head 8.3 mm wide, 5.2 mm deep and 9.0 mm from tip to snout to anterior margin of ear opening. Snout 3.7 mm long from tip to rostral scale to anterior margin of orbit. Eye large (2.3 mm diameter), snout short and steeply angled (Fig. 2A, B). Nostrils separated by two large internasals and surrounded by rostral, internasal, two posterior nasals and first supralabial. Rostral scale deep and top acutely gabled. Median groove extends for 1/3 of scale depth from apex of gable (Fig. 2e). Seven supralabials and seven infralabials on each side of mouth. The two anterior infralabials larger than following five infralabials; second infralabial always notched on posterior ventral edge, a row of small

sublabial scales starting at this point (Fig. 2d). 26 interorbital scales. Mental scale longer than wide coming to a point, extends between postmentals which are rounded and in contact with second infralabials (Fig. 2b).

Snout-vent length (SVL) 38.5 mm, tail length 32 mm, tail broken and regenerated. One hundred and sixteen rows of scales around body. Dorsal scales round and granular while ventral scales flatter and larger. Limbs relatively short. Toes five, strongly dilated; six subdigital lamellae on dilated section of fourth toe. Subdigital lamellae subdivided by median groove. Twelve preanal pores in chevron formation with anterior apex. Six postanal tubercles.

Background colouration of dorsal pattern light orange brown. Head has two dark brown eyestripes. Face and dorsal surface of body, tail and legs covered by small dark brown spots, some joined to form bands. Cream spots interspersed between darker spots on head and body. Undersurface of head and body cream.

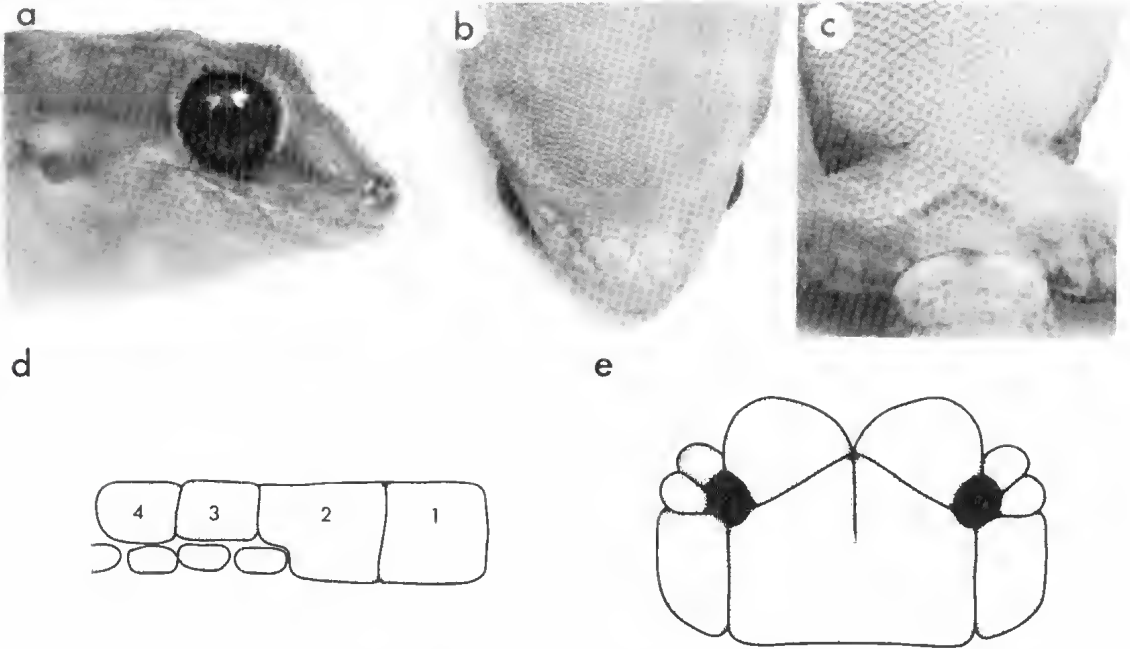


Fig. 2. Morphological characteristics of *G. minuta*. A. Side view of the head showing large eye and very short, oblique snout. B. Ventral view of the chin shield showing the long pointed mental scale. The rounded post mental scales are in contact with second infralabial scale. C. Preanal pores in males. D. Diagrammatic representation of infralabial scales. Second infralabial is notched. E. Diagrammatic representation of nasal area showing large rounded internasals and relatively deep rostral scale with sharply gabled dorsal surface.

TABLE 1. Summary of the morphometric and meristic characters of *Gehyra minuta*.

Character	X	Range	n
Snout-vent length (mm)	40.5	36.4–45.5	15
Tail length (mm)	—	0–50.0	15
Head depth (mm)	4.9	4.3–5.7	15
Head length (mm)	9.2	8.7–10.6	15
Head width (mm)	7.8	7.0–9.0	15
Snout length (mm)	3.9	3.4–4.5	15
Preanal pores	10.9	9–13	9
Postanal tubercles	2.3	1–3	9
Subdigital lamellae	7	6–8	15
Midbody scales	108.5	96–126	15
Interorbital scales	28.1	23–31	15
Supralabial scales	7.9	7–9	15
Infralabial scales	7.3	6–8	15

**Variation:** Variation in characters measured or counted in the 15 specimens is summarized in Table 1. Considerable variation in the back pattern occurs, ranging from a simple orange brown dorsal coloration to a strongly marked pattern with bands of dark brown to black spots coalescing to form dorsal bars. Bands of light cream spots occur between the darker bars and are separated from them by the orange background. The specimens shown in Fig. 1 were captured at the same locality, and

show the extremes of pattern variation, demonstrating that this is not a good diagnostic feature.

In seven of the specimens the postmental scales are in direct contact with the second infralabial scale, whereas the others do not show such contact (Fig. 2b). Two specimens also had a very small third internasal scale between the two very large internasals. The subdigital lamellae were divided in all cases, and six to eight of these lamellae were present in the dilated portion of the fourth hind toe.

**Distribution and Habitat:** All animals were collected under rock exfoliations, or blocks, in minor rock outcrops confined to a narrow band of red soil country on the southwestern periphery of the Barkly Tablelands, Northern Territory. Rock outcrops further north were inhabited by *G. nana*, whereas, those to the south were inhabited by a series of genetically distinct forms of the *G. variegata-punctata* complex (i.e.  $2n = 38$ ,  $2n = 40A$  and  $2n = 44$  chromosome races; King 1979). *G. montium* Storr is also recorded from this area.

**Chromosomes:** All specimens of *G. minuta* karyotyped had  $2n = 42$  chromosomes. This

complement is most similar to that of *G. punctata* (sensu Storr 1982) and the karyotype is shown in King (1979). Indeed, in this publication photographs of *G. punctata* and *G. minuta* (at that time still included with *G. punctata* sensu Mitchell, 1965) were included to show the degree of morphological divergence possible within one chromosome race. It was argued that these morphologically unique forms had speciated allopatrically since the initial divergence of the  $2n = 42$  chromosome race, thus still retaining their ancestral karyomorph. The two forms obviously had diverged to a species level with *G. punctata* reaching a SVL of 65 mm whereas *G. minuta* is no longer than 45.5 mm.

*Etymology:* The name *minuta* is derived from the Latin *minutus* = small.

#### Acknowledgements

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